On page 7, line 4, following "the main operator and promoter regions of", please delete "phase" and insert -- phage --.

On page 21, line 1, please delete "Patent Claims" and insert -- WHAT IS CLAIMED IS: --.

IN THE CLAIMS:

Please amend Claims 1 - 8 as follows:

1. (Amended) A purified and isolated [P]polypeptide [which exerts] having the biological activity of a GABA B receptor and [which comprises] comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6.

2. (Amended) The [P]polypeptide according to Claim 1, characterized in that the amino acid sequence corresponds to a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6.

3. (Amended) A purified and isolated [N]nucleic acid comprising a nucleotide sequence which encodes a polypeptide according to Claim 1.

4. (Amended) The [N]nucleic acid according to Claim 3, characterized in that it is a single- or double-stranded DNA or RNA.

5. (Amended) The [N]nucleic acid according to Claim 4, characterized in that it is a fragment of genomic DNA or cDNA.

6. (Amended) The [N]nucleic acid according to Claim 3, characterized in that the nucleotide sequence corresponds to a sequence of SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 5.

7. (Amended) The [N]nucleic acid according to Claim 3, characterized in that it hybridizes under stringent conditions to the sequences of SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 5.

8. (Amended) A DNA construct comprising a nucleic acid according to [any of] Claim[s] 3 [to 7] and a heterologous promoter.

Please cancel Claim 9.

Please amend Claims 10 -17 as follows:

10. (Amended) A vector [according to Claim 9], characterized in that the nucleic acid of Claim 3 is [operatively] linked to regulatory sequences which ensure the expression of the nucleic acid in pro-karyotic or eukaryotic cells.

11. (Amended) A [H]host cell [containing] stably transformed or transfected with a nucleic acid according to [any of] Claim[s] 3 [to 7, a DNA construct according to Claim 8 or a vector according to Claim 9 or 10].

12. (Amended) The [H]host cell according to Claim 11, which is a prokaryotic cell[, in particular E. coli].

13. (Amended) A [H]host cell according to Claim 11, which is a eukaryotic cell[, in particular a mammalian or insect cell].

14. (Amended) An [A]antibody substance which binds specifically to a polypeptide according to Claim 1.

15. (Amended) A [T]transgenic invertebrate containing a nucleic acid according to [any of] Claim[s] 3 [to 7].

16. (Amended) The [T]transgenic invertebrate according to Claim 15, which is Drosophila melanogaster or Caenorhabditis elegans.

17. (Amended) The [T]transgenic progeny of an invertebrate according to Claim 15 [or 16].

Please cancel Claims 18, 19, 20, 21, 22, 23, 24 and 25.

Please add Claims 26 - 38 as follows:

-- 26. A vector comprising a nucleic acid according to Claim 3 or the nucleic acid of Claim 3 and a heterologous promoter.

27. The host cell of Claim 11 containing a DNA construct according to Claim 8.

28. The host cell of Claim 11 containing a vector according to Claim 10.

29. The host cell of Claim 11 wherein the prokaryotic cell is E. coli.

30. The host cell of Claim 11 wherein the eukaryotic cell is a mammalian or insect cell.

31. A method of generating a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6, comprising

a) culturing a host cell stably transformed or transfected with a nucleic acid according to Claim 3 under conditions which ensure the expression of the nucleic acid according to Claim 3, or

b) expressing a nucleic acid according to Claim 3 in an in-vitro system, and

(c) obtaining the polypeptide from the cell, the culture medium or the in-vitro system.

32. A method of generating a nucleic acid according to Claim 3, comprising the steps selected from the group consisting of:

(a) full chemical synthesis in a manner known per se,

(b) chemical synthesis of oligonucleotides further comprising, labelling of the oligonucleotides, hybridizing the oligonucleotides to DNA of a genomic library or cDNA library generated from insect genomic DNA or insect mRNA, respectively, and selecting positive clones and isolating the hybridizing DNA from positive clones, and

(c) chemical synthesis of oligonucleotides and amplification of the target DNA by PCR.

33. A method of generating a transgenic invertebrate, comprising stably transforming or transfecting an invertebrate cell or organism with a nucleic acid selected from the group consisting of a nucleic acid of Claim 3, a nucleic acid of Claim 3 and a heterologous promoter, and a vector comprising a nucleic acid of Claim 3 operatively linked to regulatory sequences ensuring expression of the nucleic acid of Claim 3 in the invertebrate cell or organism.

34. A method of finding new active compounds for crop protection which alter the properties of polypeptides having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of:

a) providing a host cell according to Claim 11,

b) culturing the host cell in the presence of a chemical or of a sample comprising a multiplicity of chemicals, and

(c) detecting altered properties .

35. A method of finding a chemical which binds to a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of:

(a) contacting a polypeptide according to Claim 1 or a host cell according to Claim 11 with a chemical or a mixture of chemicals under conditions which permit the interaction of a chemical with the polypeptide, and

(b) determining the chemical which binds specifically to the polypeptide.

36. A method of finding a chemical which alters the expression of a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of :

(a) contacting a host cell according to Claim 11 or a transgenic invertebrate according to Claim 15 with a chemical or a mixture of chemicals,

(b) determining the concentration of the polypeptide according to Claim 1, and

(c) determining the chemical which specifically affects the expression of the polypeptide.

37. A method of finding new active compounds for crop protection or for finding genes which encode polypeptides which participate in the synthesis of functionally similar GABA B receptors in insects comprising selecting for said active compounds with a bio-molecule, cell, or organism selected from the group consisting of:

(a) a polypeptide according to Claim 1,

(b) a nucleic acid according to Claim 3,

(c) a vector according to Claim 26,

(d) a host cell according to Claim 11,

(e) an antibody substance according to Claim 14; and

(f) a transgenic invertebrate according to Claim 15.

38. A method of killing insect pests comprising applying a modulator of a polypeptide according to Claim 1. --